

# NOTES ON THE LONG SLOW DEATH OF INDIA'S MATHS AFTER BRAHMAGUPTA (AB) & REBIRTH AS PODOMETIC

(A brief Bharatan Maths story for Shri Narendra Modi Ji, Prime Minister of India.)

**Jonathan J. Crabtree, Founder Podometric**

India's Zero-Based Arithmetic Upgrade | [www.podometric.in/his-maths-story](http://www.podometric.in/his-maths-story)

**0 AB** (628 CE) Brahmagupta gave birth to modern maths with his definition of zero and [18 laws of maths](#) for addition, subtraction, multiplication and division for negatives, positives and zero.

**200 AB** (c. 828) [Al-Khwārizmī](#) wrote a book on India's arithmetic in Arabic, known today via its Latin translation as, *Algoritmi de numero Indorum*. Al-Khwarizmi did not consider 1 a number.

**322 AB** (c. 950) [Al-Uqlīdisī](#) changed India's dust-board calculations to the form we use today, yet like others, he did not consider zero to be a number and negative numbers remained missing.

**600 AB** (1228, 2<sup>nd</sup> extant ed.) Zero (zephirum) and the 'Hindu–Arabic numeral system' was introduced into Europe via the writings of the Italian Leonardo Pisano in [Liber Abaci](#).

**800 AB** (c. 1428) The first English mention of (Brahmagupta's) maths is in the [Craft of Numbering](#) (in modern form): *"This book... treats the Craft of Numbering, the which Craft is called also Algorism. There was a King of India, the name of whom was Algor, and he made this his craft, and after his name, he called it Algorism."*... *"Why ten figures of India?"*... *"For as I have said before they were found first in India by a King of that country that was called Algor."*

**916 AB** (1544) [Michael Stiefel](#) said negative numbers were below zero, which is below nothing and thus, negative numbers were absurd.

**1057 AB** (1685) John Wallis described  $-3$  on a 'number line' as "... he is [advanced 3 yards less than nothing](#)", yet noted "there cannot be less than nothing", writing "he is retreated 3 yards."

**1340 AB** (1968) [At age 7](#), Jonathan J. Crabtree noticed India's zero was missing from his teacher's explanation of multiplication (which made no sense).

**1355 AB** (1983) [Crabtree smashed his spine](#) and made a promise to God he would fix maths if he could walk again. Crabtree began walking on working on fixing primary level maths.

**1382 AB** (2010) Tamil Nadu and Himachal Pradesh are 'hand picked' to represent India in the

Programme for International Student Assessment (PISA). Results published the next year reveal [shocking news](#). Despite India having invented zero as a number and the laws of maths for positives, negatives and zero, only 15% and 12% of students respectively in Tamil Nadu and Himachal Pradesh were ready to use maths in ways considered fundamental for their future development. The OECD average was 75%.

**1390 AB** (2018) Crabtree is interviewed at the [Kolkata Press Club](#) where he reveals he is relaunching Indian maths. Responses to Crabtree's lecture at [Jadavpur University](#) include:

*"By profession I am a mathematics teacher in a school in India. I must say, today your presentation was beautiful and fascinating. This is the best lecture on elementary and fundamentals of Mathematics I have ever seen. Thanks for giving us such a magnificent, powerful and thought provoking lecture on Indian Mathematics. It has immense importance in terms of originally and to established truth"* Kousik Sett. And also... *"It was quite an amazing and mind-boggling experience to get acquainted with the commonplace errors we always make. Your inspirational lecture today is still ringing in my ears"* Abhijit Majumder.

**1391 AB** (2019) Crabtree delivers his [Maths4Modi speech](#) in New Delhi and speaks at [IISER Pune](#) on how India's definition of zero never made it to either the Arabic world or Europe. The keynote speaker was maths prof. Dr. Dinesh Singh, chancellor K.R. Mangalam University previously 21st Vice-Chancellor of the Delhi University. On Crabtree's lecture [Dr. Singh wrote](#): *Superb lecture. Scholarly and yet easy to follow. I recommend this for parents, students, teachers of history and of math and for anyone interested in India's ancient history and how India developed mathematical concepts way ahead of the Greeks and of Europe.*

**1392 AB** (Jan. 2020) Crabtree starts revealing research on Podometric, India's zero-based arithmetic upgrade at [www.podometric.in](http://www.podometric.in) with plans to launch a series of FREE eBooks explaining maths as Āryabhaṭa, Bhaskara and Brahmagupta might have wished.

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